

AMENDMENTS TO THE CLAIMS

1-37. (Cancelled)

38. (Currently Amended) A method implemented in a digital home communication terminal (DHCT) video decoding system for adapting to resource constraints of the DHCT, said method comprising steps of:

determining whether a resource-constrained mode is to be initiated;

responsive to determining that the resource-constrained mode is to be initiated, initiating the resource-constrained mode, including: ~~foregoing decoding of portions of received video input;~~

_____ retrieving a first set of reconstructed decompressed video data from a first portion of a memory component, wherein the memory component stores compressed video data in a distinct second portion ~~and decompressed video data~~, wherein the ~~first~~ set of video data corresponds to a ~~first~~ video picture; and

_____ transferring the set of retrieved reconstructed decompressed video data to a display device while downscaling the video picture in transit to the display device.

~~scaling the first set of video data into a second set of video data corresponding to a second video picture that is smaller than the first video picture;~~

~~transmitting the second set of video data to a display device, wherein the second set of video data is not stored in the memory component prior to being transmitted; and~~

~~transmitting graphics data to the display device, wherein the graphics data is displayed contemporaneously with the second set of video data.~~

39. (Cancelled)

40-50. (Cancelled)

51-52. (Cancelled)

53. (Currently Amended) A method implemented in a digital home communication terminal (DHCT) video decoding system for adapting to resource constraints, said method comprising steps of:

determining whether a resource-constrained mode is to be initiated;

responsive to determining that the resource-constrained mode is to be initiated, initiating the resource-constrained mode, including: ~~foregoing decoding of a first set of compressed pictures, each of the first set of pictures being at a first spatial resolution;~~

_____ retrieving, from a first portion of a memory component, a ~~second~~ set of compressed pictures;

_____ storing, in a second and distinct portion of the memory component, a ~~third~~ set of decoded pictures corresponding to the ~~second~~ set of compressed pictures, each of the ~~third~~ set of decoded pictures being at ~~the~~ a first spatial resolution;

_____ retrieving, from the second and distinct portion of the memory component, the ~~third~~ set of decoded pictures; and

_____ transferring the retrieved set of decoded pictures to a display device while scaling the pictures in transit to the display device to a second spatial resolution without storing the pictures in the memory component, wherein the second spatial resolution is smaller than the first spatial resolution.

~~scaling the third set of pictures into a fourth set of pictures at a second spatial resolution smaller than the first spatial resolution;~~

~~transmitting the fourth set of pictures to a display device, wherein the fourth set of pictures is not stored in the memory component prior to being transmitted; and~~

~~transmitting graphics data to the display device, wherein the graphics data is displayed contemporaneously with the fourth set of pictures.~~

54. (Currently Amended) A digital home communication terminal (DHCT) comprising ~~video decoding system for adapting to resource constraints, the system configured to:~~

logic configured to determine whether a resource-constrained mode is to be initiated;

logic configured to, responsive to determining that the resource-constrained mode is to be initiated, initiate the resource-constrained mode, including: ~~foregoing decoding of a first set of pictures, each of the first set of pictures being at a first spatial resolution;~~

logic configured to retrieve, from a first portion of a memory component, a ~~second~~ set of compressed pictures;

logic configured to store, in a second and distinct portion of the memory component, a ~~third~~ set of decoded pictures corresponding to the ~~second~~ set of compressed pictures, each of the ~~third~~ set of decoded pictures being at ~~the~~ a first spatial resolution;

logic configured to retrieve, from the memory component, the ~~third~~ set of decoded pictures; and

logic configured to transfer the set of decoded pictures to a display device while scaling the pictures in transit to the display device to a second spatial resolution without storing the pictures in the memory component, wherein the second spatial resolution is smaller than the first spatial resolution.

~~scale the third set of pictures into a fourth set of pictures at a second spatial resolution smaller than the first spatial resolution;~~

~~transmit the fourth set of pictures to a display device, wherein the fourth set of pictures is not stored in the memory component prior to being transmitted; and~~

~~transmit graphics data to the display device, wherein the graphics data is displayed contemporaneously with the fourth set of pictures.~~

55. (Currently Amended) A method implemented in a digital home communication terminal (DHCT) video decoding system for adapting to resource constraints, said method comprising steps of:

~~receiving, in a memory component, video data including a first set of video data and a second set of video data, the first set comprising a first complete picture and the second set comprising a second complete picture;~~

~~determining whether a resource-constrained mode is to be initiated;~~

~~responsive to determining that the resource-constrained mode is to be initiated, initiating the resource-constrained mode, including: foregoing decoding of the second set of video data;~~

~~_____ retrieving the first set of video data from the memory component; and~~

~~_____ transferring the retrieved video data to a display device while downscaling the video picture in transit to the display device.~~

~~scaling the first set of video data into a third set of video data corresponding to a third video picture that is smaller than the first video picture;~~

~~transmitting the third set of video data to a display device, wherein the third set of video data is not stored in the memory component prior to being transmitted; and~~

~~transmitting graphics data to the display device, wherein the graphics data is displayed contemporaneously with the third set of video data.~~

56-60. (Cancelled)

61. (New) A digital home communication terminal (DHCT) comprising:

video encoder logic;

determination logic configured to determine whether a resource-constrained mode is to be initiated;

resource-constrained logic responsive to determination logic, comprising:

read logic configured to retrieve a set of decoded video data from a memory component, wherein the set of decoded video data corresponds to a first video picture with a first spatial resolution;

scaler logic configured to scale the set of decoded video data to produce a set of scaled video data corresponding to a second video picture at a second spatial resolution smaller than the first spatial resolution; and

switch logic configured to, in resource-constrained mode, switch the set of scaled video data output by scaler logic as an input to the video encoder logic.

62. (New) The video decoding system of claim 61, further comprising:

first-in-first-out (FIFO) logic configured to store video data,

wherein the switch logic is further configured when not in resource-constrained mode to switch the set of scaled video data output by scaler logic to the FIFO logic.

63. (New) The video decoding system of claim 61, further comprising:

composite logic configured to supply a graphics overlay to the video encoder logic such that the graphics overlay data is displayed contemporaneously with the set of scaled video data.

64. (New) The video decoding system of claim 61, further comprising:
positioning logic configured to position the second scaled set of video data at a desired programmable location within the first spatial resolution.

65. (New) The video decoding system of claim 61, wherein the composite logic is further configured to produce the graphics overlay with a transparent pixel value at each location corresponding to the size and location of the positioned second scaled set of video data, and a opaque pixel value at all other locations in the graphics overlay.

66. (New) A computer readable medium containing a program for use in a digital home communication terminal (DHCT) to adapt to resource constraints, the program comprising logic for performing the steps of:

receiving, in a memory component, video data comprising a complete picture;
determining whether a resource-constrained mode is to be initiated;
responsive to determining that the resource-constrained mode is to be initiated, initiating the resource-constrained mode, including:

retrieving the video data from the memory component; and
transferring the retrieved video data to a display device while downscaling the video picture in transit to the display device.

67. (New) The computer readable medium of claim 66, the program further comprising logic for performing the step of:

transmitting graphics data to the display device, wherein the graphics data is displayed contemporaneously with the scaled video data.

68. (New) The computer readable medium of claim 66, wherein the downscaling comprises horizontal scaling.

69. (New) The computer readable medium of claim 66, wherein the downscaling comprises vertical scaling.

70. (New) The computer readable medium of claim 66, wherein the downscaled video picture is not stored in the memory component.

71. (New) The method of claim 38, further comprising:
transmitting graphics data to the display device, wherein the graphics data is displayed contemporaneously with the downscaled video data.

72. (New) The method of claim 38, wherein the downscaling comprises horizontal scaling.

73. (New) The method of claim 38, wherein the downscaling comprises vertical scaling.

74. (New) The method of claim 53, further comprising the step of:
transmitting graphics data to the display device, wherein the graphics data is displayed contemporaneously with the scaled video data.

75. (New) The method of claim 53, wherein the scaling comprises downscaling.

76. (New) The method of claim 53, wherein the scaling comprises horizontal scaling.
77. (New) The method of claim 53, wherein the scaling comprises vertical scaling.
78. (New) The DHCT of claim 54, wherein the system is further configured to:
transmit graphics data to the display device, wherein the graphics data is displayed
contemporaneously with the scaled pictures.
79. (New) The DHCT of claim 54, wherein the scaling comprises downscaling.
80. (New) The DHCT of claim 54, wherein the scaling comprises horizontal
downscaling.
81. (New) The DHCT of claim 54, wherein the scaling comprises vertical
downscaling.
82. (New) The method of claim 55, further comprising the step of:
transmitting graphics data to the display device, wherein the graphics data is displayed
contemporaneously with the scaled video data.
83. (New) The method of claim 55, wherein the downscaling comprises horizontal
scaling.
84. (New) The method of claim 55, wherein the downscaling comprises vertical
scaling.